

# THE DØ COLLABORATION

S. Grinstein, M. Mostafa, R. Piegaia, A. Schwartzman, V. Sorín  
**Universidad de Buenos Aires, Buenos Aires, Argentina**

G.A. Alves, J. Barreto, J. Molina, J. Montanha, H. da Motta, A. Santoro, M. Souza,  
M. Vaz  
**LAFEX, Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil**

W. Carvalho, J.G.R. Lima, V. Oguri, A. Sznajder  
**Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil**

E.M. Gregores, S.F. Novaes  
**Instituto de Física Teórica, Universidade Estadual Paulista, São Paulo, Brazil**

Z. Ke, X. Li, H.S. Mao  
**Institute of High Energy Physics, Beijing, People's Republic of China**

C. Avila, A. Collantes, B. Gómez, D. Mendoza, P. Nechey, J.P. Negret, J.M.R. Roldan,  
A. Serna, M. Zanabria  
**Universidad de los Andes, Bogotá, Colombia**

P. Krivkova, R. Leitner, K. Soustruznik  
**Charles University, Prague, Czech Republic**

S. Pospisil  
**Czech Technical University, Prague, Czech Republic**

A. Kupco, M. Lokajicek, R. Otec, V. Simak, K. Smolek, V. Vrba  
**Institute of Physics, Academy of Sciences, Prague, Czech Republic**

B. Hoeneisen  
**Universidad San Francisco de Quito, Quito, Ecuador**

Y. Arnoud, A. Besson, S. Crépé-Renaudin, P. Demine, J.-C. Durand, N. Parua, G. Sajot  
**Institut des Sciences Nucléaires, IN2P3-CNRS, Université de Grenoble 1,  
Grenoble, France**

A. Duperrin, E. Kajfasz, E. Nagy, S. Negroni, M. Talby, F. Villeneuve-Seguier  
**CPPM, IN2P3-CNRS, Université de la Méditerranée, Marseille, France**

A. Abdesselam, F. Beaudette, C. De La Taille, V. Bhatnagar, L. Duflot, J.-F. Grivaz,  
P. Imbert, Y. Jacquier, M. Jaffré, G. Le Meur, G. Martin-Chassard, P. Pétroff, M. Ridel,  
F. Touze

**Laboratoire de l'Accélérateur Linéaire, IN2P3-CNRS, Orsay, France**

U. Bassler, G. Bernardi, D. Lacour, H. Lebollo, E. Lebreton, F. Machefert, B. Olivier  
**LPNHE, Universités Paris VI and VII, IN2P3-CNRS, Paris, France**

R. Bernard, B. Bloch-Devaux, P. Bonamy, J. Bystricky, L. Chevalier, F. Deliot, C. Guyot,  
O. Kuznetsov, J.-F. Laporte, P. Le Dû, P. Micout, J.-F. Renardy, C. Royon, L. Schoeffel,  
B. Thooris, M. Virchaux, A. Zylberstein

**DAPNIA/Service de Physique des Particules, CEA, Saclay, France**

E. Chabanat, P. Lebrun, M. Lethuillier, J.P. Martin, G.S. Muanza

**Institut de Physique Nucléaire de Lyon, IN2P3-CNRS, Université Claude  
Bernard, Villeurbanne, France**

M. Hohlfeld, K. Jakobs, G. Quast, C. Zeitnitz

**Institut für Physik, Universitat Mainz, Mainz, Germany**

D. Schaile, R. Ströhmer, T. Trefzger

**Ludwig-Maximilians-Universitat Munchen, Munchen, Germany**

S.B. Beri, V. Bhatnagar, J.M. Kohli, J.B. Singh

**Punjab University, Chandigarh, India**

A. Bhardwaj, T. Chand, S. Kumar, R.K. Shivpuri

**Delhi University, Delhi, India**

B.S. Acharya, S. Banerjee, S.R. Dugad, S. Jain, M.R. Krishnaswamy, N.K. Mondal,  
V.S. Narasimham

**Tata Institute of Fundamental Research, Mumbai, India**

S.H. Ahn, B. Hong, S.J. Hong, K.H. Kim, T.J. Kim, K.S. Lee, S.W. Lee, J. Park, M. Park,  
S.K. Park, K.S. Sim, H. Youn, S.W. Youn

**Korea Detector Laboratory, Korea University, Seoul, Korea**

H. Castilla-Valdez, J.L. González Solís, A. Sanchez  
CINVESTAV, Mexico City, Mexico

P.W. Balm, F. Blekman, K. Bos, F.L. Linde, G.G.G. Massaro, O. Peters, L. Phaf,  
M. Vreeswijk

**FOM-Institute NIKHEF and University of Amsterdam/NIKHEF, Amsterdam,  
The Netherlands**

S.N. Ahmed, S.J. de Jong, S. Duensing, F. Filthaut, N.A. Naumann, D.A. Wijngaarden  
**University of Nijmegen/NIKHEF, Nijmegen, The Netherlands**

B. Pawlik  
**Institute of Nuclear Physics, Kraków, Poland**

V.M. Abazov, G.D. Alexeev, A.M. Kalinin, Y.M. Kharzeev, E.V. Komissarov,  
V.L. Malyshev, Y.P. Merekov, A.A. Nozdrin, S.Y. Porokhovoy, N.A. Russakovich,  
B.M. Sabirov, A.A. Shishkin, A.N. Sissakian, V.V. Tokmenin, L.S. Vertogradov,  
Y.A. Yatsunenko

**Joint Institute for Nuclear Research, Dubna, Russia**

V. Gavrilov, S. Kuleshov, P. Polozov, V. Stolin, S. Uzunyan  
**Institute for Theoretical and Experimental Physics, Moscow, Russia**

G. Bashindzhagyan, A. Belyaev, V. Bodyagin, E.E. Boos, L.V. Dudko, P. Ermolov,  
D. Karmanov, A. Koubarovskiy, A. Leflat, V. Manankov, M. Merkin, A. Pukhov,  
E. Shabalina, A. Solomin, N. Sotnikova, E.G. Zverev  
**Moscow State University, Moscow, Russia**

V. Abramov, V.V. Babintsev, V.A. Bezzubov, N.I. Bojko, V.S. Burtovoi, S.V. Chekulaev,  
S.P. Denisov, A. Dyshkant, O.V. Eroshin, V.N. Evdokimov, A.N. Galyaev, P.I. Goncharov,  
S.N. Gurzhiev, A.V. Kostritskiy, A.V. Kozelov, E.A. Kozlovsky, V. Medovikov,  
D.A. Stoyanova, V. Vaniev, I. Vasilyev, A.A. Volkov, A.P. Vorobiev, S. Zimin  
**Institute for High Energy Physics, Protvino, Russia**

G. Alkhazov, A. Atamanchuk, V. Golovtsov, V. Kim, N. Kuropatkin, P. Neustroev,  
G. Obrand, B. Razmyslovich, L. Uvarov, S. Uvarov  
**Petersburg Nuclear Physics Institute, St. Petersburg, Russia**

B. Åsman, P. Eerola, T. Ekelöf, Y. Coadou, V. Hedberg, S. Hellman, K. Jon-And,  
A. Lipniacka, B. Lund-Jensen, T. Moa, S. Silverstein, J. Sjölin, O. Smirnova

**Lund University, Royal Institute of Technology, Stockholm University, and  
Uppsala University, Sweden**

I. Bertram, D. Evans, A.J. Finch, R.J. Genik II, R.W.L. Jones, P.N. Ratoff  
**Lancaster University, Lancaster, United Kingdom**

T.C. Bacon, D. Bauer, R. Beuselinck, D.J. Colling, G. Davies, J.F. Hassard, J. Hays,  
R. Illingworth, R.I. McCarthy, K. Papageorgiou, M. Petteni  
**Imperial College, London, United Kingdom**

Y. Dai, G.W. Wilson, T.R. Wyatt  
**University of Manchester, Manchester, United Kingdom**

K. Davis, D. Fein, K. Johns, R. McCroskey, F. Nang, J. Rutherford, M. Shupe  
**University of Arizona, Tucson, Arizona 85721, USA**

E. Barberis, A.R. Clark, F. Fleuret, B. Knuteson, C. Leggett, R.J. Madaras, M. Strovink,  
T.G. Trippe, D. Whiteson  
**Lawrence Berkeley National Laboratory and University of California, Berkeley,  
California 94720, USA**

R. Breedon, W. Ko, J.F. Lizarazo, S.M. Tripathi  
**University of California, Davis, California 95616, USA**

R.E. Hall  
**California State University, Fresno, California 93740, USA**

T. Fahland, A.J. Lankford, D. Stoker  
**University of California, Irvine, California 92697, USA**

S. Choi, J. Ellison, A.P. Heinson, V.E. Kuznetsov, S.J. Wimpenny  
**University of California, Riverside, California 92521, USA**

S. Blessing, B. Connolly, S. Hagopian, V. Hagopian, W.M. Lee, S.L. Linn, H.B. Prosper,  
S. Tentindo-Repond, H.D. Wahl, S. Youssef  
**Florida State University, Tallahassee, Florida 32306, USA**

B. Baldin, J.F. Bartlett, P.C. Bhat, A. Boehlein, F. Borcherding, G. Brooijmans,  
A. Bross, J.H. Christenson, W.E. Cooper, M. Demarteau, D. Denisov, H.T. Diehl,  
M. Diesburg, V.D. Elvira, J. Fast, H.E. Fisk, S. Fuess, E. Gallas, K. Genser, H. Greenlee,  
S. Grünendahl, G. Gutierrez, H. Haggerty, S. Hansen, A.S. Ito, M. Johnson, A. Jonckheere,  
H. Jöstlein, A. Juste, B. Klima, S. Krzywdzinski, F. Lehner, Q.Z. Li, D. Lincoln,  
R. Lipton, L. Lueking, M. Martens, M.I. Martin, H.L. Melanson, K.W. Merritt,  
C.S. Mishra, N. Mokhov, H.E. Montgomery, T. Nunnemann, N. Oshima, R. Raja,  
E. Ramberg, P.A. Rapidis, M. Roco, P. Rubinov, G. Savage, V. Sirotenko, R.P. Smith,  
L. Stutte, I. Terekhov, P. van Gemmeren, V. White, J. Womersley, R. Yamada, T. Yasuda,  
K. Yip, J. Yu, D. Zhang

**Fermi National Accelerator Laboratory, Batavia, Illinois 60510, USA**

M. Adams, M. Buehler, M. Chung, C.E. Gerber, H. Goldberg, J.M. Heinmiller, R. Hirosky,  
R.D. Martin, J. Solomon, N. Varelas

**University of Illinois at Chicago, Chicago, Illinois 60607, USA**

G. Blazey, M.A.C. Cummings, M. Fortner, D. Hedin, A.K.A. Maciel, S. Willis  
**Northern Illinois University, DeKalb, Illinois 60115, USA**

D. Buchholz, H. Fox, L.J. Pan, M. Przybycien, H. Schellman, H. Wang, Z. Yu  
**Northwestern University, Evanston, Illinois 60208, USA**

J. Huang, R. Jesik, C. Luo, T. Marshall, A.A. Mayorov, M. Muminov, R. Van Kooten,  
D. Zieminska, A. Ziemiński  
**Indiana University, Bloomington, Indiana 47405, USA**

J. Bishop, N. Cason, L. Coney, M. Hildreth, D. Karmgard, A. Kharchilava, E. Popkov,  
R. Ruchti, W.D. Shephard, J. Warchol, M. Wayne, H. Zheng  
**University of Notre Dame, Notre Dame, Indiana 46556, USA**

E.W. Anderson, J.A. Green, J.M. Hauptman, J. Krane, Z. Zhou  
**Iowa State University, Ames, Iowa 50011, USA**

R. Ammar, P. Baringer, A. Bean, D. Coppage, C. Hebert  
**University of Kansas, Lawrence, Kansas 66045, USA**

T.A. Bolton, R. Demina, W. Kahl, A. Khanov, M. Kubantsev, N.W. Reay, F. Rizatdinova,  
R.A. Sidwell, N.R. Stanton  
**Kansas State University, Manhattan, Kansas 66506, USA**

Z.D. Greenwood, K. Johnston, L. Sawyer, A. Stone  
**Louisiana Tech University, Ruston, Louisiana 71272, USA**

A. Baden, S. Eno, G. Graham, N.J. Hadley, S. Kunori, D. Toback  
**University of Maryland, College Park, Maryland 20742, USA**

J.M. Butler, S. Fatachia, U. Heintz, M. Narain  
**Boston University, Boston, Massachusetts 02215, USA**

G. Alverson, S. Doulas, P. Hanlet, N. Parashar, S. Reucroft, D.R. Wood  
**Northeastern University, Boston, Massachusetts 02115, USA**

A. Alton, C. Han, Y. Huang, B. Kuah, H.A. Neal, J. Qian, Q. Xu, B. Zhou  
**University of Michigan, Ann Arbor, Michigan 48109, USA**

M. Abolins, R. Brock, D. Casey, D. Edmunds, R. Hauser, J. Kalk, J. Linnemann,  
R.W. Moore, D. O'Neil, B.G. Pope, T. Rockwell, H. Weerts, A. Yurkewicz  
**Michigan State University, East Lansing, Michigan 48824, USA**

D. Claes, C. Lundstedt, G.R. Snow  
**University of Nebraska, Lincoln, Nebraska 68588, USA**

T. Bose, H. Evans, S. Fu, M. Gao, L. Groer, C. Hays, B. Kothari, J. Parsons,  
G. Steinbrück, P.M. Tuts  
**Columbia University, New York, New York 10027, USA**

M. Begel, V. Buescher, F. Canelli, K.M. Chan, D.K. Cho, G.A. Davis, J. Estrada,  
T. Ferbel, G. Ginther, P. Slattery, S.-Y. Yoo, M. Zielinski, V. Zutshi  
**University of Rochester, Rochester, New York 14627, USA**

L. Babukhadia, M. Bhattacharjee, Z. Casilum, D. Chakraborty, S. Desai, R. Engelmann,  
A. Goussiou, P.D. Grannis, J.D. Hobbs, Y. Kulik, R. McCarthy, A. Patwa, M. Rijssenbeek,  
R.D. Schamberger, D. Shpakov, W. Taylor, A. Talalaevskii, Z.-M. Wang, M. Ždrazil  
**State University of New York, Stony Brook, New York 11794, USA**

S. Chopra, Y. Fisyak, H. Gordon, V. Jain, S. Kahn, J. Kotcher, S. Protopopescu,  
S. Rajagopalan, S. Snyder, A.S. Turcot, H. Willutski, P. Yamin  
**Brookhaven National Laboratory, Upton, New York 11973, USA**

T. McMahon, J. Snow  
**Langston University, Langston, Oklahoma 73050, USA**

P. Gutierrez, D. Mihalcea, M. Strauss, X. Zhang  
**University of Oklahoma, Norman, Oklahoma 73019, USA**

G. Briskin, D. Cutts, Y. Gershtein, G. Guerkov, S. Kesisoglou, G. Landsberg,  
S.E.K. Mattingly, A. Melnitchouk, C. Miao, R. Partridge  
**Brown University, Providence, Rhode Island 02912, USA**

D.L. Adams, A. Brandt, K. De, J.T. Eltzroth, J. Li, Y. Song, M. Sosebee, M.A. Strang,  
A. Vartapetian, A. White  
**University of Texas, Arlington, Texas 76019, USA**

L.T. Goss, D. Norman, J.T. White, J.V.D. Wirjawan  
**Texas A&M University, College Station, Texas 77843, USA**

G. Eppley, H. Miettinen, P. Padley, N. Sen, B.R. Smith  
**Rice University, Houston, Texas 77005, USA**

T.H. Burnett, A. Hass, H.J. Lubatti, P.M. Mockett, J.E. Rothberg, G. Watts, T. Zhao  
**University of Washington, Seattle, Washington 98195, USA**